

TAXONOMIC STUDY OF THE SCAPIFORM SPECIES OF
ACOURTIA (ASTERACEAE-MUTISIIAE)

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As treated by Bacigalupi (1931) and most early workers, the genus Perezia was considered to be comprised of two subgenera: Perezia and Acourtia, the former confined to South America, the latter confined to North America. Vuilleumier (1970) in her excellent monograph of the South American Perezia concluded that the two subgenera were relatively remote from each other; indeed, she related these to different genera within the subtribe Nassauviinae, as did Crisci (1974) in his numerical treatment of the genera within this subtribe.

Reveal and King (1973) subsequently transferred nearly all of the North American species of Perezia into Acourtia. They did not, however, transfer the North American scapiform species of Perezia into Acourtia, presumably because they felt these might comprise yet other generic elements to judge from their notation "...two species complexes which we feel do not belong to Acourtia are in need of additional study." One such group centered around Perezia runcinata (Lag. ex D. Don) A. Gray and the other about the Central American and Southern Mexican elements treated below.

Nash (1976), in her treatment of the tribe Mutisieae for the Guatemalan Flora, recognized both Acourtia and Perezia (as genera), distinguishing the former from the latter by its scapiform habit. This is clearly an artificial cleavage of Acourtia proper, for the North American scapose species certainly relate much closer to the Acourtia element than they do to the South American Perezia element. This was clearly suggested by Bacigalupi (1931) who could find no clear morphological basis for the erection of sectional groupings within Acourtia, "Though the species in most cases, are in their vegetative characters, clearly differentiated, the discovery of trustworthy diagnostic characters proved difficult." He went on to point out that the corollas were exceedingly uniform and that while "the receptacles, pappus and achenes, on the other hand, were not so nearly stereotyped but the differences were found to be too inconsistent to be considered of any important diagnostic value."

I concur with this observation but willingly admit (in defense of Reveal and King) that almost any monophyletic element (which Acourtia certainly appears to be) can be yet further split ad nauseum as noted by Colless (1977) in his perceptive comments on hierarchical constraints in biological classification. Depending on one's taxonomic "sensitivity" each species might become a genus. But to what avail? Thus, I can see no good reason to segregate the scapiform A. molinana as a new genus, Neoshinneria

R. M. King (according to label annotations), nor yet other scapiform elements within Acourtia.

My interest in the scapiform members of Acourtia developed primarily through my efforts to identify collections of this complex from southern Mexico and Central America. Bacigalupi (1931) recognized only five scapiform species among the specimens available to him; examination of subsequent new collections by Blake (1942), Molina (1952) and Nash (1975) revealed the existence of yet three more (A. erioloma, A. molinana and A. glandulifera) and I have added an additional new species (A. hondurana) in the present treatment, bringing to nine the number of scapiform species within Acourtia. However, it should be noted that A. nudiuscula is possibly not truly scapiform and perhaps some argument might be made that the leafy bracts on the scape of A. glandulifera are too prominent to treat them as truly scapiform. Finally, it should be noted that there exists at least one, as yet undescribed species, for sterile material of collections made by A. J. Sharp ("Fine soil at base of bluff W of Chilpancingo, Guerrero." at 6000 ft., 25 Oct 1944, NY) surely represents a new taxon and, to judge from the newly emerging scape from the flabellate leaves, a most striking species. No doubt additional new scapiform taxa will be found in these poorly explored west-coast ranges.

KEY TO SCAPIFORM SPECIES OF ACOURTIA

1. Caudex bearing several, enlarged, fusiform tubers; scapes abbreviated, shorter than or somewhat exceeding the length of the leaves; species of northeastern Mexico and adjacent United States 2. A. runcinata
1. Caudex bearing a fibrous root system, so far as known, not tuberous; scapes elongate, much exceeding the basal foliage; species of Pacific coastal Mexico to Honduras and El Salvador (2).
 2. Involucral bracts and peduncles glandular pubescent; plants robust, 70-80 cm tall; leaves large, the blades 20-40 cm long, 10-20 cm wide 3. A. glandulifera
 2. Involucral bracts and peduncles not glandular pubescent; plants mostly smaller; leaves mostly smaller (3).
3. Involucre 8-14 mm high; florets 10-50 per head (5).
3. Involucre 5-7 mm high; florets 4-7 per head (4).

4. Leaves coriaceous, the blades cordate; plants of Honduras and possibly adjacent Guatemala 4. A. molinana
4. Leaves membranous, the blades lyrate-lobed, obovate to oblong in outline; plants of Michoacan, Mexico 5. A. scaposa
5. Heads with 10-20 florets (7).
5. Heads with 40-50 florets; plants of arid or desert habitats of north central Oaxaca, Mexico (6).
6. Involucre 8-10 mm high, the innermost bracts obtuse or rounded at the apices; florets pink, scapes with mostly 6-50 heads 6. A. scapiformis
6. Involucre 10-12 mm high, the innermost bracts acute, the apices terminated by a short mucro, 0.2-0.4 mm long; florets white; scapes with mostly 4-5 heads. 7. A. erioloma
7. Involucre 15-17 mm high; receptacle densely white bristly; plants of south central Oaxaca 8. A. umbratalis
7. Involucre 8-10 (12) mm high; receptacle otherwise (8).
8. Pappus 10-11 mm long; innermost involucre bracts acuminate at the apex; corolla 12-14 mm long; plants of Nayarit 1. A. nudiuscula
8. Pappus 5-7 (9) mm long; innermost involucre bracts obtuse or rounded at the apex; corolla 6-10 mm long; plants of Chiapas, Mexico south to El Salvador (9).
9. Leaf blades elliptical, not lobed or incised; scapes with mostly 2-8(10) heads; florets mostly 15-20 per head 9. A. hondurana
9. Leaf blades various but only rarely, if ever, unlobed; scapes with mostly 10-50 heads; florets 10-13 per head 10. A. nudicaulis

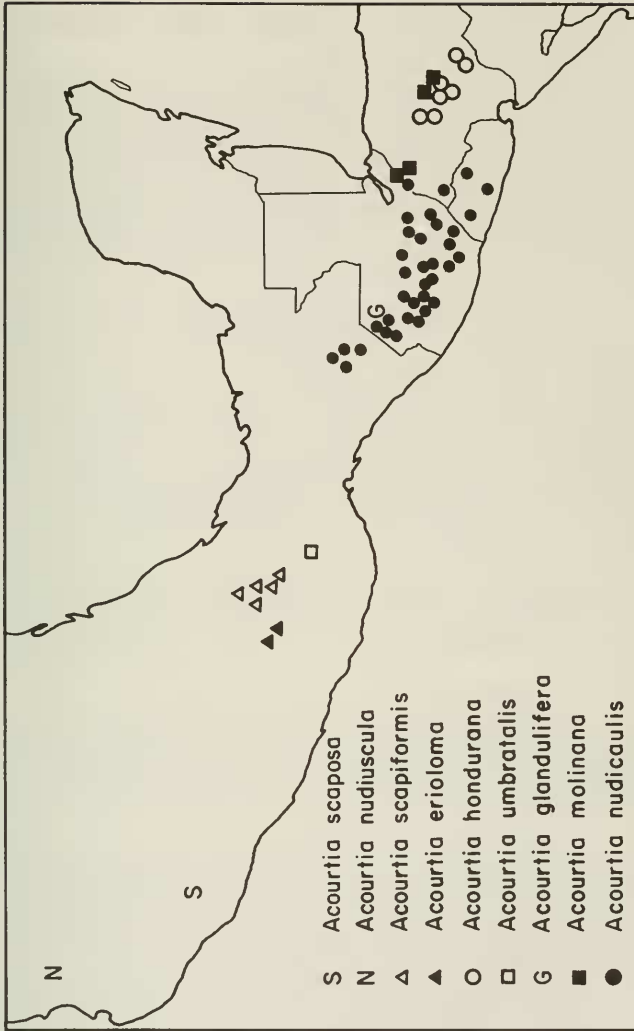


Fig. 1. Distribution of scapiform species of Acourtia.

(The widespread species A. runcinata of Northeastern Mexico and Texas not shown.)

1. Acourtia nudiuscula (B. L. Robinson) Turner, comb. nov.

Perezia nudiuscula B. L. Robinson, Proc. Amer. Acad. 44:
625. 1909.

HOLOTYPE (GH!): MEXICO. Nayarit: Tepic, 5 Jan-6 Feb 1892,
E. Palmer 2018 (Isotypes GH!, NY!).

Basal portion unknown, but seemingly scapiform. Scapes with 7-40 heads on ultimate glabrous peduncles 5-50 mm long. Involucre turbinate to narrowly campanulate, 8-10 mm high; phyllaries gradate in 4-5 series, the innermost linear-oblongeolate, glabrous, acuminate at the apex. Florets 12-20 flowered; corolla seemingly pink or lavender, ca 13 mm long, anther appendages ca 2 mm long. Achenes dark brown, 4-5 mm long, densely glandular-punctulate and hispidulous; pappus of 60 or more white, stiff bristles, 10-11 mm long.

DISTRIBUTION: Known only from the type collection

Bacigalupi (1931) thought the species was related to A. nudicaulis but, if belonging to the scapose group, I would reckon its relationship to be somewhat closer to A. glandulifera. Actually, I doubt that the taxon will prove to be truly scapose, the inflorescences and flowers themselves are very much like the diffuse inflorescences and flowers of Acourtia rigida and it might prove to be related to the west coast species of that complex.

2. Acourtia runcinata (Lag. ex D. Don) Turner, comb. nov.

Perezia runcinata Lag. ex D. Don, Trans. Linn. Soc. 16: 207.
1830.

HOLOTYPE (BM): MEXICO. W/o locality, Sesse & Mociño s.n. The species was probably collected by Sesse in Ixmiquilpan, Hidalgo, presumably in 1792, this being the only time that either of the collectors might have ventured into its area of distribution (McVaugh, 1977).

This is a widespread, scapose species of northeastern Mexico and adjacent United States, occurring from central Texas (Austin area) southward to Hidalgo State, Mexico. It is usually found in rocky or shallow, calcareous, soils in shady places, mostly beneath shrubs. In spite of its wide distribution and variety of habitats occupied (from near sea level at Brownsville, Texas to mountain elevations of 2000 meters in north central Mexico) it is remarkably uniform, so much so that I have been unable to discern meaningful regional infraspecific categories from among the 100 or more collections examined (LL, TEX).

Bacigalupi (1931) gives an excellent description of the species, consequently one is not given here, there being little emendation needed. Besides, the taxon is not especially close to the other scapiform taxa, and is not likely to be confused with these, although it is clearly related by a number of characters, the fusiform, tuberous roots not withstanding.

3. Acourtia glandulifera (Nash) Turner, comb. nov.

Perezia glandulifera Nash, Phytologia 31: 362. 1975.

HOLOTYPE (F!): GUATEMALA. Dept. Huehuetenango: Canyon of Rio Selequa, in "El Tapon" near Monos Bridge, 40 km NW of Huehuetenango, 1000-1200 m, 14-17 Dec 1972. L. O. Williams et al., 41167. (Isotypes GH!, NY!, US).

Scapose, robust, perennials, 70-80 cm tall, with large, membranous, lettuce-like leaves up to 40 cm long, 20 cm wide, irregularly lobed, especially below. Scapes with prominent, clasping, leaf-like bracts, up to 6 cm long, 3 cm wide, larger at the lower nodes reduced upwards; inflorescence a diffuse panicle of numerous (30 or more) heads; ultimate peduncles glandular pubescent, 5-20 mm long. Involucres turbinate, 8-10 mm high; phyllarics gradate in 3-4 series, the innermost linear-ovate, acute to apiculate (the mucro often recurved) at the apex, glandular-pubescent to glabrate on the back, the outer bracts sparsely ciliate intermixed with numerous short glandular-trichomes. Receptacle glabrous or nearly so. Florets 10-12; corolla white, 6-7 mm long; anther appendages ca 1 mm long. Achenes ca 5 mm long, moderately short hispid throughout except on the glandular pubescent neck; pappus of 50 or more tawny-white bristles, 5-6 mm long.

DISTRIBUTION: Known only from the type collections.

A very distinct species not readily related to any of the other scapose species except perhaps remotely to the imperfectly known A. nudiuscula which may or may not be truly scapiform since basal leaves are not known for the taxon, the scape or inflorescence possessing linear, leaf-like bracts up to 25 mm long and 4 mm wide, becoming reduced upwards, much in the manner of A. glandulifera. It is my opinion that both species are relatively remote from the Central American-Southern Mexican complex centering about A. nudicaulis, this being suggested especially by their differing receptacles, being ciliate imbricate in the latter, essentially glabrous in A. glandulifera and beset with short, glandular-trichomes in A. nudiuscula.

4. Acourtia molinana Turner, nom. nov.

Perezia microcephala Molina, Ceiba 3: 97. 1952 - Not Perezia microcephala (DC.) Gray, Pl. Wright. 1: 127. 1849, which is based upon Acourtia microcephala DC., Prod. 7:66. 1838.

HOLOTYPE (US!): HONDURAS. Dept. Morazán: Rió Guarabuquí, terrenos delos indios dux Xicaques de la Montana de la Flor, 1800 m, 2 Jun 1950. Antonio Molina R. 3048. Phototypes (GH, NY, US).

Perennial scapose herbs, 20-60 cm tall, with cordate leaves, the blades variously serrate, ca 1-1/2 times as long as wide. Scapes with mostly numerous heads (20-80); ultimate peduncles 5-15 mm long, minutely puberulent to glabrous. Involucres narrowly cylindrical to turbinate, 5-6 mm high; phyllarics gradate, 2-3 seriate, the innermost linear-obovate, rounded at the apex, emucronate, or nearly so, glabrous to sparsely pubescent along the margins. Receptacle glabrous, florets usually 5 per head, rarely 4; corollas pinkish-white, ca 6 mm long; anther appendages ca 0.7 mm long. Achenes 3-4 mm long, moderately pubescent throughout; pappus of 70 or more, fairly persistent (i.e., not easily breaking), tawny, bristles, 5-7 mm long.

DISTRIBUTION: Known only from Honduras where it is relatively rare, occurring locally in shady places, usually about perennial water sources, among and upon rocks in the lower montane regions (700-1800 meters). Flowering, Jun-Aug.

Additional Specimens Examined: HONDURAS. Dept. Comayagua: "rocas del barranco 1 kms. al sur de La Mision, Molina 10936 (F, NY). Dept. Copan: 1 mi W of Copan Ruinas, Molina 30856 (F); 4.5 mi NE of Copan, Poole & Watson 897 (LL, TEX).

Acourtia molinana, while a very distinct species, clearly belongs to the scapiform taxa of Central America centering about A. nudicaulis and A. hondurana. R. M. King, according to unpublished names on labels (Molina 30856, F), would segregate this species (and perhaps yet others) as a distinct genus, but in my opinion, such an elevation would be unwarranted by the distinctions concerned.

From my own field observations of A. molinana (with Poole & Watson 897), I found the species to be locally common on rich calcareous soils, usually in shady places beneath relic stands of tropical seasonal forests about wet places; more specifically, near Copan the plants were found at the base of a small waterfall some 4.5 mi northeast of the village, the stream itself ran only a short distance across open cultivated fields before emptying into Rio Copan. Unfortunately, at the time of my visit (Jun 10), the species was already too far in bloom to obtain meiotic material for chromosome counts.

5. Acourtia scaposa (Blake) Turner, comb. nov.

Perezia scaposa Blake, J. Wash. Acad. Sci. 33: 271. 1943.

HOLOTYPE (US!) MEXICO. Michoacan: Distrito Coalcoman, Aquila, 250 m, along cliffs, 24 Mar 1941, G. B. Hinton et al. 15838. Isotype (LL!).

Perennial scapose herbs about 50 cm tall with large, membranaceous, lyrate lobed, obovate to oblong leaves, 15-35 cm long, 5-12 cm wide. Scapes with about 50 heads, ultimate peduncles slender, glabrate, 10-40 mm long. Involucre narrowly-turbinate, 6-7 mm high; phyllaries relatively few, gradate in 2-3 major series, the innermost linear-subulate, ca 1 mm wide, gradually tapering into a narrowly acute apex, glabrous or nearly so (faintly ciliate along the upper margins). Receptacle fimbriate, florets mostly 7 per head, seemingly pinkish-white, 6-7 mm long; anther appendages, 0.8-1.0 mm long. Achenes 4.0-4.8 mm long, hispidulous, partly with glandular hairs; pappus of ca 40 whitish, delicate (easily broken) bristles ca 5 mm long.

DISTRIBUTION: Known only by the type collection.

A very distinct species possessing the lyrate lobed leaves of Acourtia umbratalis but the few-flowered, small heads and inflorescence of A. molinana. It is undoubtedly most closely related to the latter, however, if emphasis is placed upon inflorescence and floral features.

6. Acourtia scapiformis (Bacigalupi) Turner, comb. nov.

Perezia scapiformis Bacigalupi, Contrib. Gray Herb. 97: 15. 1931.

HOLOTYPE (GH!): MEXICO. Oaxaca: Las Sedas, ca 2000 m, 30 Oct 1894, C. G. Pringle 6015. Isotypes (MICH!, NY!, UC!).

Perennial scapose herbs, 20-60 cm tall, with linear-obovate, lyrate lobed blades. Scapes with mostly (5)8-30 heads; ultimate peduncles 10-35 mm long, very sparsely tomentose to glabrate, with 1-4 caudate bracteoles. Involucre broadly turbinate to hemispheric, 8-10 mm high; phyllaries gradate in 3-5 series, the innermost ovate, broadly obtuse or rounded at the apex, shortly mucronate (the mucro ca 0.1 mm long), very sparsely tomentose-ciliate to glabrate. Receptacle sparsely hispid. Florets 40-50; corollas pinkish to pinkish-brown, ca 6 mm long; anther appendages, 0.7-0.9 mm long. Achenes 4-5 mm long, sparsely to moderately short pubescent throughout; pappus of 60 or more delicate bristles 4.5-5.0 mm long.

DISTRIBUTION: Dry calcareous or gypsiferous hills to the west of Tehuacan, mostly beneath small shrubs. Flowering, Sept.-Dec.

Additional Specimens Examined: OAXACA. 6 km NE of Sola de Vega, Ripley & Barneby 14655 (NY); 37 mi NNW of Huajuapán de León along highway 125, Turner P-60 (LL). PUEBLA. Vicinity of San Luis Tultitlanapa, Purpus 3923 (GH, NY, UC); Tehuacan, Purpus 5613 (F, GH, NY, UC).

The species is known by relatively few collections, all from the arid brush-covered hillsides to the west and southwest of Tehuacan. It flowers in the late fall, depending upon rains. From my own observations the species occurs most often on relatively bare, dry, chalky-white (presumably in some measure gypsiferous) rocky hillsides, frequently beneath low shrubs along shallow arroyos.

Acourtia scapiformis is clearly quite closely related to A. erioloma but is readily distinguished by several characters as noted in the key to species. According to label data, the latter also occurs in quite different habitats ("eroded red clay-gravel hillsides") of the Mixteca area of more western Oaxaca.

7. Acourtia erioloma (Blake) Reveal & King, *Phytologia* 15: 229. 1973.

Perezia erioloma Blake, *Proc. Biol. Soc. Wash.* 55: 118. 1942.

HOLOTYPE (NY!): OAXACA: Mountain slopes near Tlaxiaco, 16-19 Dec 1936, W. H. Camp 2225. Isotype (F!).

Perennial scapose herbs, 40-60 cm tall, with obovate-elliptical leaves. Scapes with 4-5 heads; ultimate peduncles 15-45 mm long, sparsely tomentose to nearly glabrate. Involucre broadly turbinate, 10-12 mm high; phyllaries gradate in 3-5 series, the innermost narrowly linear-ovate, acute, the apex abruptly terminated by a short mucro, 0.2-0.4 mm long, variously white to brown, tomentose, densely so along the margins. Receptacle fimbriate, not bristly. Florets ca 40; corollas reportedly white, ca 6 mm long; anther appendages 0.7-1.0 mm long. Achenes ca 4 mm long, densely pubescent throughout; pappus of 60 or more, delicate, bristles 5-6 mm long.

DISTRIBUTION: Known only from the Mixteca area of Oaxaca by the several collections cited. Flowering, Nov.-Dec.

Additional Collections Examined: MEXICO. OAXACA: Near Teposcolula. "barren heavily eroded red clay-gravel hillside...

Rare and local, only on the badlands." 7000 ft, 6 Nov 1964, H. D. Ripley & R. C. Barneby 13,666 (NY).

Acourtia erioloma is apparently confined to the Mixteca region of Oaxaca, being most closely related to its allopatric relative, A. scapiformis. The latter, however, is readily distinguished by its usually lyrate or irregularly lobed leaves and less prominently tomentose-ciliate, broadly obtuse or rounded phyllaries.

Blake thought the species to be most closely related to A. umbratalis, known to him "only from description." The latter is quite distinct from A. erioloma and A. scapiformis, both by its fewer-flowered, larger heads and much larger floral parts, characters which relate A. umbratalis to the much more variable complex centering about A. nudicaulis.

Reveal and King transferred Perezia erioloma to Acourtia, presumably unaware that the taxon was scapiform. From their preliminary account of the group, it appears that they transferred into Acourtia only those elements of Perezia which were not scapose, thinking that the latter might comprise one or perhaps two generic groups, a view to which I cannot subscribe, as noted in the introduction to this paper.

8. Acourtia umbratalis (B. L. Robs. & Greenm.) Turner, comb. nov.

Perezia umbratalis B. L. Robs. & Greenm., Proc. Amer. Acad. 32: 60. 1896.

HOLOTYPE (GH!). MEXICO. Oaxaca: "In shade, Tomellin Cañon, 3000 ft.," 1 Dec 1895. C. G. Pringle 5966. The type locality is along the railway line between Tehuacan and Oaxaca city at the station of Almoloyas (Davis, 1936). Pringle apparently collected only a few specimens of the species, for duplicate material is not widely distributed.

Scapose perennials, 25-30 mm tall, leaves membranaceous, elliptical-oblong in outline, lyrate-pinnatifid. Scapes with 2-3 heads; ultimate peduncles sparsely white, tomentulose to glabrate, 20-50 mm long, bearing 3-10 small subulate bracts which grade into the involucre. Involucre cylindrical-turbinate, 15-17 mm high; phyllaries gradate in 4-5 series, the innermost lance-elliptic, obtuse to rounded at the apex, mucro absent or nearly so (i.e., less than 0.1 mm), glabrous with scarious margins (the outermost bracts with sparsely, soft-ciliate margins). Receptacle densely white bristly. Florets about 18; corolla presumably "lavender-pink", ca 12 mm long; anther appendages pinkish, 2.0-2.2 mm long. Achenes (immature) moderately short-pubescent throughout, ca 5 mm long; pappus of 60 or more tawny-white

bristles, 9-10 mm long.

DISTRIBUTION: Known only from the type collection. The species was presumably collected in shaded habitats of Tomellin Cañon ("56 miles from Oaxaca as the train runs"; Davis, 1936, p. 145) which Pringle describes as a site in which is "found the denizens of the hot lowlands"; (Davis, 1936, p. 296).

At first glance specimens of this taxon might be taken for *Acourtia nudicaulis*, but as noted by Bacigalupi (1931) in his key to species, *A. umbratalis* has quite different involucre bracts (the outermost blunt and rounded as opposed to apiculate or cuspidate-acuminate). Probably the most distinguishing features of *A. umbratalis* are the bristly-white receptacles, larger involucre and floral parts which are only approached in *A. nudicaulis*. Intensive collection just north of the Isthmus of Tehuantepec might reveal yet other populations of this interesting species, but from my own searches it must be quite rare.

9. *Acourtia hondurana* B. L. Turner, sp. nov.

HOLOTYPE (MICH!): HONDURAS. El Paraiso: Cerros el Zapotillo, pineland beyond Galeras, road from Zamorano to Guinope, 3850 ft, common, 4 Jul 1962, G. L. Webster et al. 11982. Isotypes (F!, GH!).

A. nudicaulis simile sed semper laminis foliorum minoribus ellipticis, inflorescentiis compactioribus capitulis paucioribus, in quoque capitulo floribus pluribus.

Perennial scapose herbs, 10-35(40) cm tall. Leaves with mostly elliptical, uniformly serrate, unlobed, blades. Scapes with 2-8(10) heads; ultimate peduncles glabrous, 5-30 mm long, mostly ebracteolate. Involucre cylindrical to turbinate (with age), 9-10 mm high; phyllaries gradate in ca 3 series, the innermost linear, broadly obtuse or rounded at the apex, sparsely ciliate to glabrate, emucronate or nearly so. Receptacle lacerate ciliate. Florets 15-20; corolla white, 7.0-7.5 mm long; anther appendages ca 1 mm long. Achenes 3-4 mm long, short pubescent throughout; pappus of 70 or more delicate brownish-purple bristles, 5-6 mm long.

DISTRIBUTION: Known only from Honduras where it occurs in pine barrens; reportedly common, 1200-1500 m, usually on rocky hillsides. Flowering, Dec-Jan.

Additional Specimens Examined: HONDURAS. COMAYOGUA: near Guaimoca, Carlson 3179 (F); vicinity of Siguatepeque, Standley & Chacon 6230, 6853 (F); Standley 55861, 56235 (F); near Seguatepeque, Yuncker 5704 (F, GH, LL, MICH, NY). EL PARAISO: Guinope,

Rodriguez 1891, 1965 (F); 3 km NW of Guinope, Merrill & Williams 15691 (F, GH); Cumbre, NW of Guinope, Standley et al. 1996 (F); Guinope, Williams & Molina 11520 (GH, TEX, UC).MORAZAN: Uyuca, Rodriguez 1586 (F); San Antonio de Occidentale, Rodriguez 3651; NE of Tegucigalpa, Molina 3908 (F, GH).

Most of the specimens of this taxon have heretofore been determined as Acourtia nudicaulis, a larger plant with quite different leaves (blades lobed below, or variously obtuse to cordate) and more open, numerous-headed scapes. Approximately 50 plants of A. hondurana (mounted on 26 sheets) were examined: all were short, possessing the smaller, neatly elliptical, leaf blades characteristic of the species.

10. Acourtia nudicaulis (Gray) B. L. Turner, comb. nov.

Perezia nudicaulis Gray. Pl. Wright. 1: 127. 1850.

HOLOTYPE (GH!): GUATEMALA. Without locality, Skinner s.n. Isotype (K).

Scapose perennials, 10-60 cm tall, leaves highly variable, usually lance-elliptic in outline and runcinately pinnatifid below, rarely if ever merely elliptic in outline. Scapes with mostly (2)10-50 heads; ultimate peduncles, 5-40 mm long, glabrous or glabrate. Involucre cylindrical to turbinate, 8-10 mm high; phyllaries gradate in 3-4 series, the innermost lance-elliptic, obtuse to rounded at apex, emucronate or nearly so, glabrous, except for the pubescent margins. Receptacle lacerate-ciliate. Florets 10-13; corolla reportedly white, 6-8(10) mm long; anther appendages ca 1 mm long. Achenes 5-6 mm long, moderately short-pubescent throughout; pappus of 60 or more purplish-brown bristles 5-7(9) mm long.

Chromosomes number reportedly, $n = 28$ pairs (Breedlove & Raven 8343, MICH!); Powell et al., 1974).

DISTRIBUTION: Widespread from Chiapas, Mexico to El Salvador, being especially abundant in Guatemala. Shady areas in pine and oak forests from 750-2100 m. Flowering, Dec-Nov.

Representative Specimens: MEXICO. Chiapas: 10 km. NE of Las Margaritas. Breedlove 33421 (F, LL, MICH. NY). GUATEMALA. Dept. Solola: Panajachel water falls, Molina et al. 16239 (F, GH, NY); HONDURAS. near Copan, Pittier 1829 (F): EL SALVADOR. Dept. Chalatenango: Cerro El Robar, Calderon 2469 (F, GH).

A variable species, especially in foliage and inflorescence. It is quite closely related to Acourtia hondurana, earlier workers having treated the two taxa as one. The characters which I use to

distinguish between these seem sufficiently strong to mark these as regional "species", but treatment as geographical varieties or subspecies seems equally tenable, except that in or near the area of contact they do not appear to intergrade.

ACKNOWLEDGEMENTS

This study is based largely upon herbarium material from the following institutions (number of specimens on loan given in parenthesis)

F	(65)	NY	(21)
GH	(22)	TEX	(30)
LL	(40)	UC	(5)
MICH	(7)		

I am grateful to the Directors concerned for permitting the loans. Dr. M. C. Johnston kindly provided Latin descriptions. Supported in part from NSF Grant BM 71-01088.

LITERATURE CITED

- Bacigalupi, R. 1931. A monograph of the genus Perezia, section Acourtia, with a provisional key to the section Euperezia. Contr. Gray Herb. 97: 1-81.
- Colless, D. H. 1977. A cornucopia of categories. Systematic Zoology 26: 349-352.
- Crisci, J. V. 1974. A numerical-taxonomic study of the subtribe Nassauviinae. J. Arnold Arb. 55: 568-610.
- Davis, Helen D. 1936. Cyrus Guernsey Pringle. Free Press, University of Vermont, Burlington.
- McVaugh, R. 1977. Botanical results of the Sessé & Mociño expedition (1787-180). Contrib. Univ. Mich. Herb. 11: 97-195.
- Nash, Dorothy L. 1976. Mutisieae. In Flora of Guatemala. Fieldiana: Botany 24: 429-440.
- Powell, A. M., D. W. Kyhos and P. H. Raven. 1974. Chromosome numbers in Compositae. X. Amer. J. Bot. 61: 909-913.
- Reveal, J. L. and R. M. King. 1973. Re-establishment of Acourtia D. Don (Asteraceae). Phytologia 15: 228-232.
- Vuilleumier, B. Simpson. 1970. The systematics and evolution of Perezia sect. Perezia (Compositae). Contrib. Gray Herb. 199: 1-163.